



BETWEEN BYTES

THE JOURNAL OF THE JERSEY ATARI COMPUTER SOCIETY.

VOL. 5 NO. 8

AUG. 1987

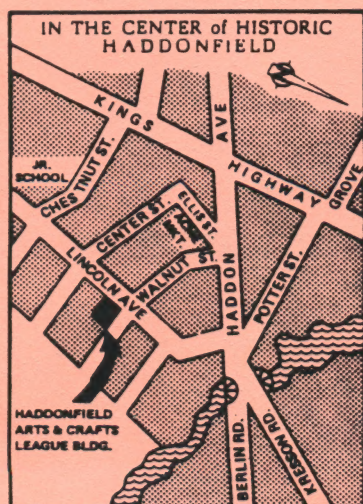
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NEXT MEETING
WED, AUGUST 19,
7:30 PM

CONRAD LEVY
MODIFYS AN 800XL
WITH THE
NEWELL 256

FRANK SOLIS
CONDUCTS AN AMS
MUSIC FILE
CONCERT

Q&A FORUM AND
TECH CORNER



JACS MEETS THIRD WED.
EACH MONTH

MEETING NOTES

By Chuck Babli

This is my first meeting as the new Vice President for 8 bits, and I am really nervous. Somehow, I'll try to get through the jitters and get the show on the road. It's really a tough job following Ken Adams who has done such a great job for the membership the past few years.

For the August meeting, Conrad Levy and Frank Solis have graciously agreed to make presentations. Conrad will be showing us how to install the Newell 256 on the 800XL. Conrad plans to use a videotape demonstration of the procedures. Frank Solis will demonstrate his prowess with AMS Music Files. This should make the evening enjoyable and informative.

In the coming months, I would like to learn what you, the membership, would like to see demonstrated at the meetings. After all, the meetings are for you. So bring your ideas!



A NOTE FROM THE PRESIDENT

The elections are over and new slate of officers is taking over. As the new President I would like to extend my thanks to departing officers, say well done and I hope that I will be able to do as good a job as they and their predecessors have done.

So that the membership gets to know me a little better let me tell you a little about your new President. To start with I do not know everything, although from the meetings you may have gathered that impression. I always manage to say something. By profession I am a structural engineer but I do fair amount of programing both in basic (compiled) on PC's and in fortran on our mainframe system (Big Blue). Computers and electronics including ham radio are my hobby pursuits and combined with great appetite for reading I have managed to establish a large base of know how, which I hope to bring to club meetings and be of some help to the membership.

I hope to keep JACS as good as it has been in the past and if possible a little better both for 8-bit and ST users but to do that I do need everybodys help. Officers of any organization can only do a good job if the membership helps. We are not superhumans. So if you have a favorite program, game, piece of equipment or a trick that you found useful share it with everybody. Maybe you solved somebodys problem before they know that they have a problem, share it. I know that program chairperson and all members will appreciate it.

As this is my first column for Between Bytes and time for submitting it to our hard working and appreciated Editor is short I will make now finish. Think what you can do for the Club and do not be bashful. See you all at next meeting.

Your President,

W.J.J (Ian) Sklodowski

PS. Do not ask what the initials stand for. That would fill a whole page of Between Bytes.



Attention JACS Members

We've received a letter from an Atari user in Poland who has a 130XE and 1050. He said that it's very hard to get magazines, cartridges, blank disks, software, or anything like that. If you have any of these items that you aren't using, please bring them to the AUGUST JACS meeting, and we'll send them all along to him in a "JACS Care Package." HELP A FELLOW ATARI USER BEHIND THE IRON CURTAIN! We want to get the package off as soon as possible, so we will only collect at the August meeting. For more information, ask Bob Whipple. He's also the person to give the donations to.

July Meeting Minutes by Debbie Collarin

The meeting was called to order at 7:50 PM by Forrest Blood. News from Atari was told to the group by ST Coordinator, Bob Whipple. Atari will be offering another 520ST to the public. The NEW ST, the "520STfm" will have a built-in single-sided disk drive, an RF modulator, and 512k, as the older model. The 520STfm will have the same case as the 1040ST and the same mother board, minus a additional row of memory. It will also include built-in power supplies. The reason - one less box for dealers to handle and public outcry.

Irv Feinberg related some news about other companies such as: Broderbund's rebate offer. The "ATARI EXPLORER" is looking for a new technical writer if anyone is interested. Also information about CompuTalk can be found on JACS BBS, in the newsletter or from the President. One other piece of news was the fact that OSS has lost distributorship for MAC65 and is closing out their inventory for further information contact them. Also a reminder about the super offer from Diverse Data Products for those interested.

The election of officers was held with a unanimous vote the officers are:

President-Ian Sklodowski
Vice-President-Chuck Babli
Secretary-Debbie Collarin
Treasurer, Forrest Blood

It was mentioned that without a separate ST Vice President it might be difficult to hold the separate ST meetings. The new reference librarian is Joe Verble. Bob Whipple handed out some information on the all new BLITBERG

BBS (aka IRS BBS) run by Brian Colflesh. Brian, with the help from his new laser printer produced this impressive looking booklet.

The first presentation by Ken Adams was a disk tutorial. Part of this was on a previous DOM, other information Ken had gotten from various other sources. He showed how to trace what was on a disk, and fix some problems that can happen with disk. The only drawback seemed to be was that you must know the hexadecimal location for some of the commands.

Bob Whipple gave us a surprise demonstration of the ST-XFORMER. This is an 8-bit emulator for the ST and it works!!! Bob demoed some 8-bit basic programs and explained the problems 20 year old, Darek Mihocka, the programmer from Canada, is having with ATARI in releasing this program to the PUBLIC DOMAIN. Parts of the 8-bit Translator disk and the basic cartridge were used to create this program. (ed. note Atari (Neil Harris) has since given Darek the OK to release it, providing the source code is supplied. See the ST Bit & Pieces in the ST POTPOURRI for more info) We had a break from 8:45-9:15.

At the end of the break Ken Adams asked for volunteers to give demos, etc. He also passed around a list for these volunteers to sign. He also gave a good talk on how to keep our club going.

Bob Paradis was next. He demonstrated a lot of ST games, most which will be out for release in September. Just in time to get on your Holiday gift list.

After that Ken Adams gave another demonstration, this time on "Bruce Lee"

Jim Woolf once again won the 50/50 drawing of \$12. The door prize, Beyond Castle Wolfstein for the 8-bit was won by Ed Natale. The meeting adjourned around 10Pm.

ADDITIONAL ST NOTES

ATARI RELEASES NEW ST COMPUTER? By Bob Whipple

During the month of May/June, Atari released a new ST computer without any announcement or fanfair. The new computer, the 520STfm. I know, the 520ST is already available, but this model uses the shell of the 1040ST, the mother board of the 1040ST, the built in power supplies of the 1040ST, and that's where it ends.

The NEW 520STfm has a built-in single-sided DD disk drive (like the SF354), and the mother board only has 512K, the remaining sockets have been soldered over. (Ed. note - Upgrading this machine to 1 meg or more may be next to impossible because of this.)

Atari has no plans to discontinue the OLD 520ST. Yet!!!!??? Think of it this way, you now have a choice, wires & power supplies or NO wires or power supplies. The RF mod has been retained on the new model, just in case you were wondering!!

The reason behind this new configuration is a request from distributors, they seem to hate to handle the 3 boxes, one for the computer, one for the drive and one for the monitor. Maybe they can't count that high??

The 520STfm ("f" meaning floppy and "m" meaning modulation (TV hook up)) has the same price as the old computer, drive ensemble, about \$399.

This set up means ATARI needs only one mold to produce 2 computers, clever!!

What will ATARI think of next?? Built-in laser printers I hope!....

MEMBERSHIP NOTES

by Jon Rodman

We thank the following people for their membership renewals, received during the past month:

The Babli Family	Ed Natale
Forrest Blood	The Nocella Family
Jim Cummings	George Poletti
Donald Divine	Fred Pomeroy
Michael Domenus	Jon Rodman
Garry Goodwin	Robert Shannon
George Keller	Richard Silver
John Kellock	The Stainao Family
Conrad Levy	Mark Wetzel
Alex Mielechowsky	Bob Whipple

We also welcome back the Diamond(soft) family, after a too-lengthy absence, as well as new members Bob Ely and Jerry Hill.

*** IMPORTANT REMINDER --** If you didn't renew your membership during June or July, this is the last issue of BETWEEN BYTES that you'll receive until we get your \$22 dues for next year. If you can't make it to the August meeting, you can send a check, payable to JACS, to me at 42 Trout Way, Medford Lakes, NJ 08055.

YOUR AD COULD APPEAR HERE!

\$25.00 FULL PAGE
\$15.00 HALF PAGE
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CLEMENTON, NJ 08021

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ADVERTISERS RECEIVE A NEWSLETTER
THE MONTH(S) THEIR AD APPEARS.

NEWSLETTER REVIEW

by Joe Verble

The title is the same but the by-line has changed. I will do my best to uphold the traditions established by my predecessors, Jim Woolf, Bill Berry, and Daniel Boris. After a drought in June, there has been a flood in July. Twenty-one newsletters were received and "away we go."

A.C.E. AUSTRALIA (April 1987)

From "down under" comes a very good article on Turbo Basic. There are two type-in's, one for a game "Defector" and the other, a utility called "Disk List".

ABE'S ACES (April 1987)

This newsletter from the Allentown, PA group is all about their Atari Expo held in March. Reviews include a game, Computer Quarterback and a LDW Basic Compiler for the ST. The XL/XE Function Keys were discussed along with a type-in Demo.

J.A.C.G. (April 1987)

Included in this newsletter are a review of Graphics Artist and a program written in KYAN Pascal called "WORDFINE" it generate arrays of letters with words embedded in them.

KEEPING PACE (May & June 1987)

The Pittsburg group sent us two newsletters. The May issue has articles on 8-Bit and Macintosh Emulators for the ST referred to by Bob Whipple in the July meeting. There are also reviews of Turbo Basic and a game, "Karate Kid II".

The June issue has an article "What's a Link?" that give information on switching between two computers.

PAGE NET ST (March & MAY 1987)

The May issue focuses on the Allentown Atari Expo and the Dallas Atarifest. A bowling game, "10th FRAME" is reviewed in the March issue.

M.A.C.C. DATA LINK (Feb. May & June 1987)

Three newsletters were received from the Modesto CA. club. An article in Feb. was on the 850 Interface Module Error Set. Titles of articles in May include "Atariwriter Alert", "XM301 Bomb", "DOS on Cartridge", and a type-in, "XM301 DIALER". "How to Enlarge Your SM124 Monochrome Monitor Screen Size" is an article in the June issue. The monitor is used by a ST.

Computah (June 1987)

From the Great Salt Lake comes an article titled "Bug in DOS 2" and a type-in program "Basic Building Blocks. There is also a review on General Electric's GENIE service.

M.A.C.E. JOURNAL (June 1987)

This Michigan newsletter reviews "Writer's Tool" by O.S.S., a word processor for the Atari 800 & 800XL. For the ST fans, there is a review of "Flying the ST".

CHARLOTTE ATARI USER'S GROUP (March 1987)

"Daisy Dot", an article adding Near Letter Quality (NLQ) to

your Epson/Star compatible printers plus plans for installing a Battery Back-up System for your computer. There was also a report on the Micronics NX-10 Printer.

G.R.A.S.P. Gazette (June 1987)

This Richmond newsletter has a review of a game, "Cardiac Arrest" and how to install front selector switches on your 1050 Disk Drive.

CURRENT NOTES (March 1987)

This slick magazine has a lead article, "Stranger in Paradise or A Tour to the Heart of Atari" that tells what is happening at Atari. Four short utilities "that someone may use" are given as type-ins along with a program, "Searching Your Atari's Memory". For the ST, HABAWRITER II, dbMAN, and a number of games are reviewed.

POKEY PRESS (March 1987)

From the Palm Beach club come some articles for ST owners, such as "Microflippy Disk -314 Drive Modification", "Getting Your 8-Bit Atari to Talk to Your ST", and "What is This GDOS?".

HUNTSVILLE ATARI USERS GROUP (June 1987)

This Alabama group also had an article on "Daisy-Dot" (See Charlotte A. U. G. newsletter review). For them this was a Disk of the Month.

Other newsletters received include, HAWKATARI (Jan 1987), from Cedar Rapids, Iowa; A-BUG-BYTE (Jan 1987), from Ohio; ACE (March 1987), from Eugene, Oregon; and TRACE, from

Tulsa, OK.

All of these newsletters will be ready for loan at the August meeting. Come and get them!



We Do The Job Right



WHITHER THE 8-BIT ATARI?

by Michael V. Sharp

Over the past year we have worried and watched and heard many cries of anguish as third party software support has swung from 8-bit to 16-bit computers. Many have left their 8-bits for the ST. Others have switched brands. Some just sit and gripe.

Now that CES and COMDEX are history, the usual flurry of magazine articles has appeared to analyze both shows and predict the near future of the personal computer industry. Based on what we see, I think we can draw some conclusions about the future of the 8-bit Atari.

Let's start with some observations:

1. Change, particularly positive change has been a fact of life for a long time. The rate of change, particularly in areas of emerging technology, is increasing. The personal computer industry is in one of those areas of emerging technology. Nowhere is this high rate of change more apparent than at trade shows like CES and COMDEX, where vendors tout their latest accomplishments.



Software Fair

2A Eagle Plaza
Voorhees, New Jersey 08043
(609) 627-4004

HARDWARE

Atari 1040ST	\$995.00*
PR: Connection	\$ 69.95
Modem Cable for PR: Connection	\$ 12.75
Printer Cable for PR: Connection	\$ 12.75
Avatex 1200 Modem	\$109.95
Avatex 1200hc Modem	\$199.00
Atari Xm 301 Modem	\$ 44.95
Panasonic 1080i Printer	\$179.00*
Panasonic 1091i Printer	\$209.00*
Computer Eyes	\$110.95

ACCESSORIES

Paper -Disaperf-2500 Sheets	\$ 24.95
Paper -Perfed-2550 Sheets	\$ 21.95
Paper -Assorted Colors-300 Sheets	\$ 9.95
Paper -Color Paper Combo Pack-400 Sheets	\$ 12.95
Disk Notcher	\$ 4.95
Panasonic Genuine Ribbon -Black	\$ 12.95
Epson MX, FX, RX Ribbon -Black	\$ 6.50
Star SG-10 Ribbon -Black	\$ 3.50

*Cash Price, Charge add 3%

2. 16-bit computers really are more capable than 8-bit computers. That's why they were developed, and that's why development continues on 32-bit computers, which will be more powerful than 16-bit machines. Six to nine months ago, as the new 16-bit machines were just coming to market, applications software was scant -- just enough to get 16-bit users into basic computer applications. Now each new trade show features some attention-grabbing display which shows off extended 16-bit power.

3. Hardware and software development emphasis has swung to the 16-bit machines, not only Atari, but other brands as well. Moreover, what third party, 8-bit software development there is, avoids supporting Atari -- probably because Atari software piracy has seriously eroded that corner of the market. Perusal of new 8-bit software offerings reveals Atari's conspicuous absence among supported systems.





4. The 8-bit Atari user still has an abundance of commercial and public domain software applications from which to choose. Third party hardware and software development continues, but on a different basis of availability than before -- abundant software support is still available via mail order, and on BBS's. There is now a stable of standard applications software for the Atari 8-bits. Some hardware development from Atari and companies like ICD continues to expand the machine's capability. In June we saw Atari bring its 80-column board to market, announce a new true double density 5.25" disk drive to replace the 1050, and abandon plans for a 3.5" drive.

5. Atari Corporation is pushing its 8-bit systems more as game machines than computers, because they see a resurgence of the game machine market. But we know that at its heart, the 8-bit "game machine" is still an 8-bit computer, don't we? And what should we see, but that Atari is converting many old games to cartridges to make sure that the new "game machine" buyers will have enough to keep them busy. Well my goodness! It looks as though all those game cartridges will work on our "computers" too.

Based on these observations of computer reality (admittedly my

own), we can draw some conclusions:

1. The 8-bit Atari is going to be around for some time to come. Although its installed base may not be as large as that of the Commodore-64, Apple IIX, or IBM PC, nevertheless it constitutes a substantial market segment that for the time being, Atari will continue to recognize.

2. If you need to get into Computer-Aided Design, or desktop publishing, then by all means, sell your 8-bit system and go buy an ST (or Amiga, or Macintosh, or IBM, or ...)

3. If the present stable of Atari software applications isn't enough for you, and you need to see a continual stream of new programs for your computer, then sell your Atari system, and go buy a Commodore-64, Apple IIX, or IBM-clone.

4. If you need to write letters/reports/books, keep track of your budget and household inventory, play an occasional game, and do some programming, then be happy with your 8-bit Atari. Kiss it and say you love it, and go forth and produce (or play, or program, or ...)! In other words, don't panic at the thought of having to live without support for your 8-bit computer system. You won't have to. Just realize that the scene is going to change a little. You'll probably be buying more from mail order firms and small development houses. You'll probably be running "game machine" cartridges on your "computer," even though you know that you don't have a true "game machine." You'll probably be spending more time on BBS's and national information services, like CompuServe and Genie. And you may even be attending your local user group a little more regularly. Now that's not so bad, is it?

19 June 1987

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I would appreciate receiving a copy of any publication reprinting this article. Please mail to:

Garry Jones

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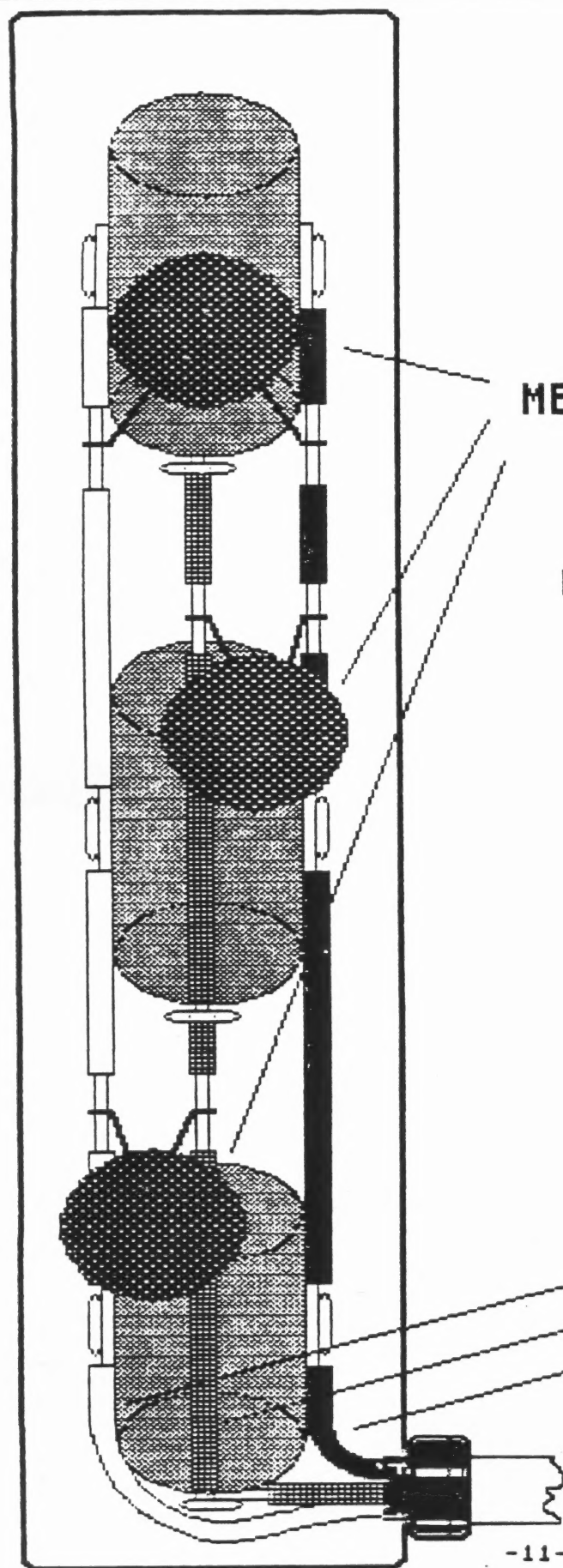
DO-IT-YOUSELF SURGE PROTECTION FOR YOUR COMPUTER

When setting up a computer system, one piece of equipment which might get overlooked is a surge protector. The purpose of a surge protector is to protect equipment from voltage spikes and surges caused by lightning strikes on power lines (c'mon, it never rains in Southern California, does it?), electrical equipment turning on and off (you didn't really plug your computer into the same circuit as your refrigerator, did you?), the crummy wiring in your apartment that your landlords won't fix because they're too cheap, and just plain lousy performance by your friendly local Edison Company.

A surge protector works by clamping the voltage and preventing it from rising beyond 130 volts when a sudden increase occurs. To do this, a surge protector uses a device called a metal oxide varistor, or MOV for short. Of course, you want to know if they wear out, and when they do, how to tell. MOVs do have a finite life,

depending on the number and severity of surges they're exposed to. When they fail, they typically create a short which will pop a circuit breaker if one is included in the circuit, immediately shutting off the power and saving the equipment.

Buying a surge protector is something of a problem, since not all surge protectors are created equal. Good ones are fairly expensive (there's plenty of expensive junk out there, too); how do you tell the good from the bad, and what do you do for cash after you spent the last of it on some superwhizbang software for your new computer? Good news for you clever hacker types who can tell a hot soldering iron when you pick it up (by the wrong end): Make your own surge protector. It's easy, it's cheap, and best of all, it might even work. For the rest of you who haven't developed opposable thumbs yet, watch the ground for pennies, steal candy from babies and sell it to bigger babies, see a loan shark, and read PC (Can you say, "PC?" Sure. I knew you could. It does mean IBM, but your tongue didn't dry up and fall out of your mouth, did it?) Magazine's product tests and take their advice. Anyway, on to the project. You'll need a power strip (make sure you get the kind you can disassemble with a screwdriver instead of a hacksaw), three metal oxide varistors (General Electric part no. V130LA20A (which means 130 volts 20 amps) or Radio Shack catalog no. 276-568B), some rosin core solder (DO NOT USE ACID CORE SOLDER OR FLUX: it will corrode the solder joints in time, ruining them), some miscellaneous tools, like Xacto knives, alligator clips, wire cutters, etc., and a soldering iron. Three hands would be nice, but you can probably manage with two. Most of us do. Take the back off the power strip and look inside. It probably looks like the drawing



METAL OXIDE VARISTORS
(MOVs)
V130LA20A
RADIO SHACK
CATALOG #276-568B

COMMON
GROUND
HOT

DO-IT-YOURSELF continued
From page 10..

included in this archive. If it doesn't, don't worry. If it has outlets, wires (three of them?), and a cord, it'll work. Notice the three wires inside: they're probably black, green, and white. White is the hot wire, green the ground, and black the common. Now, strip some insulation off the wires as shown in the illustration. Take one varistor and solder one of it's wire legs to the white wire, and the other leg to the green wire as shown. Fasten an alligator clip to the leg being soldered between the solder joint and the varistor to prevent heat damage to the varistor while soldering. Do the same thing with the second varistor, except it should be soldered to the green wire and the black wire. Solder the third varistor to the black wire and the white wire.

Clean the solder joints with a rag dipped in a little alcohol, and examine the joints. There should be a smooth shiny flow of solder between the wire leg of the varistor and the copper wire in the power strip. If the joint is dull, lumpy, or flawed in appearance, resolder it. When all the joints look good, reassemble the power strip. Sit back. Relax. You're done now. Wasn't that easy? Can you say, "Easy?" Sure. I knew you could.

-Garry Jones-
Compuserve: 72030,273

GENIE: GXRAY



The Print Shop Companion by Charles Brown

In this article I will review a utility program for The Print Shop. It is called The Print Shop Companion. This program contains several useful utilities for the main Print Shop program. It also has some extra pictures, fonts, and borders for you to use with The Print Shop.

When you first use the Companion disk, you must let your Print Shop disk know that you will be using the features added by The Print Shop Companion. This is accomplished in the set-up routine. The instruction manual just tells you to follow the on-screen prompts to do this set-up. When finished, the new set-up data will be saved to your Print Shop disk and copied to your Companion disk. The Print Shop disk will now recognize the Companion disk. You should put a write-protect tab on both your Print Shop and Companion disks.

Like The Print Shop, the Companion disk can be used with either the Joystick, the Koala Pad or the Atari Touch Tablet. The Print Shop Companion has several new features. You access them from the main menu, just as in The Print Shop.

The first selection is the Graphic Editor. I feel that this editor is much better than the one provided with The Print Shop program. It has many more features, such as: selection of 17 patterns that you can use to fill in different areas of your picture; different "mirror image" effects (as in Atari Artist); flipping of the graphic both horizontally and vertically; a negative feature, which creates an inverse of the graphic. This editor even automatically draws circles, boxes,

and ovals for you. I feel that this editor is very useful, and that you will find it to be very helpful.

The next selection from the menu is the Border Editor. You can use it to modify one or more of the 50 borders provided on this disk. You can even load in and modify the borders from the main Print Shop disk, or you can use it to create your very own borders. When this feature is loaded, you will have three different editing boxes. The first box is used to edit the four corners of the border. The second box is used to edit the top and bottom parts of the border, while the third box is used for the sides of the border. This editor uses many of the same features as the graphic editor. With the three editing boxes and all the editing tools, you can really be creative with your borders.

The next feature is a Font Editor. You can use it to modify any of The Print Shop's eight fonts. An additional twelve fonts are provided on the Companion disk as well. You can even create your own. I haven't really tried this one out, so can't comment on its usefulness. I am sure it has the same features as many of the other font editors you've seen.

The next feature chosen from the main menu is Tile Magic. This feature is very similar to the kaleidoscopes from the screen magic part of The Print Shop. You can browse through the different patterns that are provided. When you see one that you like, you simply hit a key to freeze it on the screen. Then, you can save the pattern to a data disk, or you can go to the graphic editor to modify it. You can use it to create a whole lot of different things for your creations.

The next feature chosen from the main menu is a Creature Maker. In this part you have a choice of different zany creatures to start with. You can change the three parts of a creature's body. They are the Head, the Middle and the Feet. You can exchange all of these parts at will. Once you have made your own creature, you can save it to disk as a graphic, or you can go to the graphic editor and modify it even more. (My kids love this part of the program! - Ed.)

The last selection from the main menu is the Calendar Maker. You can use this mode to create and print out your very own calendars. You can either make a weekly or monthly calendar. You can put graphics on it. You can use different fonts on it for unique effects. A very nice feature is that you can put your own messages in the daily spots on the calendar; you can put in things like birthdays, anniversaries, appointments or anything you want to remind yourself of. This way, it will be already printed when you do the whole calendar. This is nice for people like me who have poor hand writing (or people like me with poor memories! - Ed.). After you have made your calendar, you can print it or save it to disk. It is nice to save it, and then load it back in later to either print or revise it.

As you can see, The Print Shop Companion is a very powerful utility for the main Print Shop program. If you really want to create your own Print Shop icons, I feel that the graphic editor on the Companion disk is far superior to the one on the Print Shop disk. If you are serious about using the The Print Shop program, I'm certain that you will find the Companion disk very helpful.

DISK # 5 ?????

Below is one of the many letters we receive stating just how good our "PRINT SHOP GRAPHICS DISKS" are. Just thought you'd like to read it.

Jersey Atari Computer Society
P.O. Box 718
Clementon, NJ 08021
ATTN: Forrest Blood, President

Dear Mr. Blood:

I currently own all four of your graphics disks which were purchased over the last two years at the Trenton Computer Show.

Firstly, let me tell you that they are exceptional. Secondly, I'd like to know if you would be interested in viewing several icons that my son and I have designed on Graphics Editor Plus that you might be able to use for your 5th disk.

Please let me know if you are interested in seeing these icons.

Thank you,



Lowell S. Goldberg

Brooklyn, New York 11236

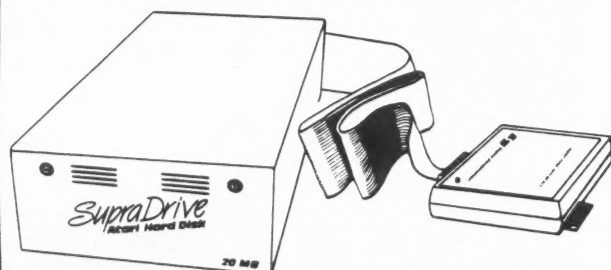
Thanks to our Contributors!



Special thanks to the following folks who made this issue possible. Chuck Babli, Ian Sklodowski, Debbie Collarin, Bob Whipple, Jon Rodman, Joe Verble, Micheal V. Sharp, Charles Brown and Jack Campbell for providing us with Garry Jones' article.

Buy From The Hard Disk Experts!

ATARI XL/XE



20 MB Complete System \$ 699.00

Includes Hard Disk Interface with hi-speed parallel port. MYDOS disk operating system and 3.5 inch 20 MB Hard Disk.

Interface and Software Only \$ 149.95

ATARI ST

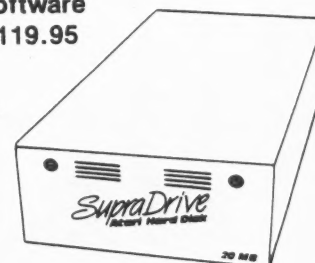
Build Your Own System!

Includes Supra's proprietary Hard Disk Interface and Boot Software. You add a Surplus Hard Disk, Controller and Case for a complete system.

**Interface W/ Boot Software
Only \$ 119.95**

Complete Systems:

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30 MB	\$ 995.00
60 MB	\$1995.00
250 MB	\$3995.00



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